DOCUMENT RESUME

ED 425 110 SO 029 601

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TITLE Reflection and Pedagogical Knowledge versus Social Studies Pedagogical Content Knowledge.
PUB DATE 1997-00-00
NOTE 20p.; Paper presented at the Annual Conference of the National Council for the Social Studies (77th, Cincinnati, OH, November 20-23, 1997).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Higher Education; Instructional Effectiveness; Instructional Improvement; *Pedagogical Content Knowledge; *Preservice Teacher Education; Preservice Teachers; *Qualitative Research; *Reflective Teaching; Social Studies; Teacher Improvement

ABSTRACT

This study compares the reflections of preservice teachers when they are considering pedagogical issues in general methods courses versus content knowledge combined with pedagogy in social studies methods courses. The paper presents a theoretical framework for the study conducted among 44 Master of Education preservice teachers of a large midwestern university. The subjects were involved in reflective journal writing during one quarter, the pedagogy group in summer of 1996 and the social studies group in fall of 1995. Reflection instruments were used to examine the writings with triangulation between both the levels and content of reflection. At the preservice level, the pedagogy group was more reflective than the social studies group, apparently due to the training on reflection that the pedagogy group received. The follow-up on the pedagogy group revealed that no significant difference was found between its reflection in pedagogy versus social studies. For the purpose of comparing reflective levels achieved in pedagogical knowledge versus pedagogical content knowledge, training in reflection did not make a difference. (Contains 31 references.) (EH)

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ED 425 110

REFLECTION AND PEDAGOGICAL KNOWLEDGE VERSUS SOCIAL STUDIES PEDAGOGICAL CONTENT KNOWLEDGE

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Paper Presented at the Annual Meeting of the National Council for the Social Studies

Cincinnati, OH

November 20-23, 1997

SO 029 601

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REFLECTION AND PEDAGOGICAL KNOWLEDGE VERSUS SOCIAL STUDIES PEDAGOGICAL CONTENT KNOWLEDGE

Objective

The objective of this study is to compare the reflection of preservice teachers when they are reflecting about pedagogical issues in general methods courses versus content knowledge combined with pedagogy in social studies methods courses.

Theoretical Framework

Dewey was the one who initiated a whole line of thinking on reflection since the beginning of the century (Canning, 1991). Ross (1989) defines reflection as a "way of thinking about educational matters that involves the ability to make rational choices and to assume responsibility for those choices" (p. 22). Van Manen (1991) asserts that reflection can take place only if preservice teachers or teachers in general have the time to think about their teaching in terms of what was done, what could have been done and what should be the next step to take. When reflection is addressed in education, Van Manen considers that it "carries the connotation of deliberation, making choices, coming to decisions about alternative courses of action" (1991, p. 511). Shulman (1987) defines the process of reflection as "reviewing reconstructing, reenacting, and critically analyzing one's own and the class's performance" (p. 15).

By "helping teachers to think about what happened, why it happened, and what else they could have done to reach their goals" (Cruickshank & Applegate, 1981, p. 553), they are being involved in conscious reflective thinking. In this way, teacners and/or preservice teachers question their own actions "What am I doing and why" (Valverde,1982, p. 86). Sparks-Langer and others consider that asking the question "why" is essential in the development of reflection in preservice teachers (1990). Kuhn (1986) asserts that "the only way to improve teacher's thinking is to involve

them in it (p. 502), that is, that in order to turn teachers into reflective practitioners, they must be required to reflect through exercises.

Reflectivity not only includes Dewey's definition of reflection but also his definition of reflective thinking (Bullough, 1989). Reflectivity must form part of a coherent conceptual framework within a teacher education program (Bullough, 1989). Reflectivity is the ability every person has to reflect about specific problems as well as to arrive to appropriate solutions considering ethical and societal values (Bullough, 1989). Reflectivity can help teachers and or preservice teachers to (1) improve their teaching performance (Cruickshank , 1985), (2) develop their own philosophy of education (Cruickshank, 1985), and (3) strengthen their self-image (Canning, 1991). Zumwalt (1982) defines teaching as the process through which teachers (or preservice teachers) think about what they do.

Sparks-Langer and others (1990) believe that reflective teachers should be able to link theory with practice, that is, "to apply educational principles and techniques within a framework of their own experience, contextual factors, and social and philosophical values" (p. 24). Therefore, a reflective practitioner is the one who relates theory to practice, and tries to balance learning styles and teaching styles/strategies/methods with content (Rust, 1988). Roth states that the reflective practitioner must be engaged in the process of inquiry. "Inquiry-oriented teacher education is essential to the preparation of reflective practitioners" (1989, p. 31). The essential element of inquiry is the concept of the problematic (1989). This is related to those teachers who have a reflective attitude about their teaching by questioning their own practices (Smyth, 1989).

Therefore, preservice teachers can be trained in reflection to develop in themselves self-

evaluation and in this way they would be able to monitor their own growth. This training should start early in teacher education programs, and it should be very well structured so that preservice teachers would develop effective reflective abilities (Bainer & Cantrell, 1992). Therefore, preservice teachers can learn to reflect about their teaching in an objective and analytical way under controlled clinical teaching experiences (Cruickshank and others, 1981; Gipe & Richards, 1992).

Preservice teachers who are involved in reflective practices in their teacher education programs, "are experiencing a model for the reflective inquiry of K-12 learners. Such experiences can enable teachers to develop images of what classroom inquiry is, as well as what it is like to experience such inquiry from the perspective of the learner" (Adler, 1994, p. 51).

Reflection is considered critical in social studies because, "without it, the subject can so easily degenerate into little more than memorization of information that students perceive as irrelevant to their lives" (Thornton, 1994, p. 5). Turning into a reflective social studies teacher implies being aware of one's own teaching in the context of discourse, organization, the practices of schooling that limits what a social studies teacher can do. The objective of reflective practice is "to examine and potentially change the assumptions and interests underlying current practices" (Hursh, 1994, p. 70).

Pedagogical Content Knowledge was introduced by Shulman in 1986. Shulman (1988) and Gudmundsdottir (1990) state that pedagogical content knowledge is the combination of subject matter knowledge and pedagogical knowledge, and this is what constitutes teaching expertise. In this way, "while "content" in pedagogical content knowledge refers to the organization of the subject matter, "pedagogical" refers to the skills regarding the transmission of content knowledge organized for teaching" (Gudmundsdottir, 1987). Shulman described it as "the most useful forms of

representation of [subject matter] ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations---in a word, the ways of representing and formulating the subject that make it comprehensible to others" (1986, p. 9).

Gudmundsdottir (1990, in Cochran, King & DeRuiter, 1991) states that "pedagogical content knowledge is that form of knowledge that makes teachers teachers rather than subject area experts" (p. 5). Therefore, the importance of pedagogical content knowledge is that teachers are able to transform, interpret, and reflect critically on how that information of the subject matter is going to be presented to the students considering the knowledge they have about their students. Gudmundsdottir (1990) even states that this transformation process teachers have to go through is "a continual restructuring of subject matter knowledge for the purpose of teaching" (Cochran, King & DeRuiter, 1991, p. 6).

In addition to the above, Gudmundsdottir (1990) emphasizes that pedagogical content knowledge has its own values as well as pedagogy. Preservice teachers are not only learning facts within the subject matter but also "... a world view imbues with values ... These values shape the development of their pedagogical content knowledge and their interpretation of the texts they teach ... The value-laden impressions become their personal curriculum, the most hidden ..." (p. 470). And, "it has been suggested that there can be no excellence in teaching, unless teachers bring into their classrooms what they value and cherish about their subject matter and life in general" (Kerr, 1981, in Gudmundsdottir, 1990, p. 50).

Teacher education programs influence preservice teachers restructure the content knowledge to make it pedagogical and "in social studies, this influence is limited to the content knowledge

students bring to the program" (Gudmundsdottir, 1987, p. 15). Therefore, "the role of content knowledge is critical in the development of pedagogical content knowledge" (Gudmundsdottir, 1987, p. 13).

Methods

This study is exploratory in nature. It has attempted to systematically analyze the reflection of preservice teachers by comparing that achieved in pedagogy classes versus special methods classes such as social studies methods.

Subjects

The sample was constituted by of 44 Master of Education preservice teachers of a large mid-western university, distributed in two groups (23 and 21 respectively). The groups were constituted by four males and nineteen females (from the group of 23); and by four males and seventeen females (from the group of 21). From the 23 preservice teachers, 10 were traditional students and thirteen were non-traditional. From the group of 21 preservice teachers, seventeen were traditional and only four were non-traditional.

Instruments

The subjects involved in the study were engaged in reflective journal writing during one quarter, the pedagogy group in summer of 1996 and the social studies group in fall of 1995. The level of reflection was analyzed with the following instruments: "Assessment for Levels of Reflection" (Galvez, 1995), and Van Manen's levels of reflection (1991, and Zeichner's and Liston's discourse analysis (1985). The content of reflection was analyzed through a content analysis on Shulman's "Model for Pedagogical Reasoning and Action" (1987). Triangulation took place among instruments

between both, the levels and content of reflection.

Orientation for Subjects

During the second session of summer quarter of 1996, the subjects of the pedagogy group were trained in the following: (a) a discussion on a literature review on reflection, reflective thinking and reflective practitioner, (b) the role of reflection in the learning process which included Kolb and Fry's (1975) model (Troyer, 1988), (c) cognitive processes involved in reflection (Troyer, 1988), (d) the importance of reflecting on classroom situations following Cruickshank's (1985) model of Reflective Teaching (Troyer, 1988), and (e) Reflective Teaching was developed theoretically (its foundations and practice were explained) and practically. They were also involved in four Reflective Teaching Lessons. The social studies group did not receive any training on reflection or reflective thinking, nor they were exposed to Reflective Teaching. They were just asked to reflect about what was discussed in class.

Both groups were asked to complete journals entries on class discussions, one on pedagogy and the other on social studies. Both groups were given two questions to answer in their journals: they were to reflect on what they learned from the previous class session and how it can be implemented in their future teaching. These journal entries were handed in weekly for five weeks.

Data Collection and Analysis

Journal entries were collected in the following way: one journal entry was collected from the pedagogy group before the training took place as base data, and after that, journal entries were handed in on a weekly basis during both quarters (summer for the pedagogy group and fall for the social studies group). The first journal that the social studies group handed in was considered as base

data. All journals were scored by two raters who were trained in the use of the four instruments. The raters were trained in the use of each instrument over a period of 5 hours which were split in two sessions. The inter-rater reliability was determined by Cronbach's alpha = 0.95, which revealed a high inter-rater reliability.

A One Factor Repeated Measures ANOVA was used to analyze the data sets and triangulate the several instruments on class discussions. Content analysis on Shulman's categories was performed on the data. Triangulation was performed through the use of multiple instruments to analyze the levels of reflection the subjects achieved in the pedagogy course versus the social studies course. Member check took place after the data was rated.

In order to verify the results from the previous analysis, a follow-up was performed on the pedagogy group, as they took not only pedagogy but also social studies methods, the following tow quarters. A two factor completely within subjects design was applied to the data to analyze the level of reflection achieved.

Results

A one way ANOVA, summarized in Table 1 was performed on a one factor repeated measures design on the achieved levels of reflection by group and rater.

Insert Table 1 about here

An examination of Table 1 revealed that the computed test statistic $F(3,172) = 9.74$, $p<.001$, was statistically significant. This indicated that the pedagogy group achieved a slightly higher level

of reflection than the social studies group, which was corroborated by the means (Pedagogy group=1.94; Social Studies group=1.72). The means revealed that the pedagogy group was almost at the descriptive level (level 2), that is that they were moving from the descriptive level based on personal experiences (level 1) to the descriptive level (level 2); meanwhile the social studies group was still at the descriptive level based on personal experiences (level 1).

A one way ANOVA, summarized in Table 2 was performed on a one factor repeated measures design based on the achieved levels of reflection by group and rater.

Insert Table 2 about here

An examination of Table 2 revealed that the computed test statistic $F(3, 172) = 8.74$, $p<.001$, was statiscally significant. This indicated that the pedagogy group was more reflective than the social studies group, which was corroborated by the means (Pedagogy group=1.28; Social Studies group=1.12). The means revealed that even though both groups stayed at Van Manen's first level: technical rationality, the pedagogy group was ahead than the social studies group.

A one way ANOVA, summarized in Table 3 was performed on a one factor repeated measures design based on the achieved levels of discourse by group and rater.

Insert Table 3 about here

An examination of Table 3 revealed that the computed test statistic $F(3, 172) = 107.42$,

$p<.001$, was statiscally significant. This indicated that the pedagogy group achieved a higher discourse level than the social studies group, which was corroborated by the means (Pedagogy group=2.62; Social Studies group=1.20). The means revealed that the pedagogy group was reflecting at the prudential discourse level (level 2), ahead of the last sublevel: extrinsic rationale (sublevel 3). This implied that the pedagogy group was already moving from prudential discourse level (level 2) to justificatory discourse level (level 3). The social studies group was reflecting at factual discourse level (level 1), at the sublevel informational discourse (sublevel 2).

The results mentioned above, showed to be consistently significant across the three frameworks. This suggested that the pedagogy group tended to be more reflective than the social studies group.

A content analysis was performed by two raters on the class discussions on pedagogy and social studies methods using Shulman's six categories (comprehension, instruction, evaluation, reflection, and new comprehension) as shown in Table 4

Insert Table 4 about here

An examination of Table 4 revealed that in the pedagogy group the journal entries were represented throughout three categories: new comprehension=41%, reflection=22%, and evaluation=17%. This meant that the pedagogy group were first gaining new understandings on the pedagogical content, then they were reviewing what they learned, and third they were evaluating their own performance during peer teaching situations that took place during the course. In the social

studies group, the journal entries were represented basically by the reflection category=79%. This means that the social studies group was only reviewing what they learned in the course.

These results corroborate the previous in the sense that the pedagogy group was more reflective than the social studies group.

In order to verify these results, a two factor completely within subjects design was applied to the pedagogy group as they also went through social studies methods. No significant difference was found in any of the intruments. This suggested that preservice teachers are not more reflective in special methods courses as social studies than in general methods courses as pedagogy.

Conclusions

At the preservice level, the pedagogy group was more reflective than the social studies group. It seemed to be due to the training on reflection that the pedagogy group received. But the follow-up on the pedagogy group revealed that no significant difference was found between its reflection in pedagogy versus social studies.

Troyer (1988), Galvez-Martin, Bowman & Morrison (1996), and Galvez-Martin & Bowman (1997) had demonstrated that training in reflection makes preservice teachers more reflective, regardless whether they are reflecting on reflective teaching (Troyer, 1988) and/or on course content and field experiences (Galvez-Martin, Bowman, 1997; Galvez-Martin, Bowman, & Morrison, 1996). The reflections on real classroom settings makes preservice teachers link theory to practice. In this way, all these experiences leads them to be reflective practitioners.

For the purpose of comparing reflective levels achieved in pedagogical knowledge versus pedagogical content knowledge, training in reflection did not make a difference. This could be due

to the fact that both groups of preservice teachers reflected on theory without being exposed to a field experience component. When preservice teachers are expected to reflect and restructure the Social Studies content to make it pedagogical, they need to be exposed to classroom teaching, as Gudmundsdottir (1987) has suggested.

This study may be extended by analyzing the reflection that preservice teachers achieve in when they are exposed to field experiences in which they teach Social Studies content versus student teaching. It may also be compared the pedagogical content knowledge and the reflection achieved by preservice elementary teachers versus middle school and/or secondary preservice teachers within the Social Studies discipline.

Table 1

One factor repeated measures analysis of variance on Galvez's levels of reflection per treatment and rater

Source	df	SS	MS	F	P
A (PedvsSS)	3	26.95	8.98	9.74	0.0001
S(A) Error	172	158.60	0.92		
Total	175	185.55			

PedvsSS=Pedagogy Group versus Social Studies Group

Table 2

One factor repeated measures analysis of variance on Van Manen's levels of reflection per treatment and rater

Source	df	SS	MS	F	P
A (PedvsSS)	3	2.24	0.75	8.74	0.0001
S(A) Error	172	14.71	0.09		
Total	175	16.95			

PedvsSS=Pedagogy Group versus Social Studies Group

Table 3

One factor repeated measures analysis of variance on Van Manen's levels of reflection per treatment and rater

Source	df	SS	MS	F	P
A (PedvsSS)	3	72.13	24.04	107.42	0.0001
S(A) Error	172	38.50	0.22		
Total	175	110.63			

PedvsSS=Pedagogy Group versus Social Studies Group

Table 4

Shulman's categories with percentages by group and rater

Categories	Ped			SS		
	R1	R2	O	R1	R2	O
Comprehension	15	5	10	4	1	2
Transformation	3	5	4	5	7	6
Instruction	6	6	6	1	1	1
Evaluation	18	16	17	2	1	1
Reflection	26	19	22	79	78	79
New Comprehension	32	49	41	9	12	11
Totals	100	100	100	100	100	100

Ped=Pedagogy Group
SS=Social Studies Group
R1=Rater 1
R2=Rater 2
O=Overall Percentage

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